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| **Title:** | Bio-implantable Antenna at Human Head Model | | |
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| **Abstract:** |  |
| This paper represents a design and miniaturization of a patch antenna which operates in the MICS band (402-406MHz) for bio-medical applications and is implantable in human scalp. The motive for designing this antenna is to work inside human tissue and can transfer data from a patient to another device. In this design, Copper is chosen for both ground and patch. ISOLA FR-408(LOSSY) is chosen as its dielectric substrate for its flexibility. Before implantation inside the head phantom silicon is used for warping the antenna. For designing, CST Microwave Studio is used for creating human head phantom. After implanting the antenna inside the human head model the S11 is observed −20.801101dB and VSWR is found to be 1.2006789. SAR is also found 0.6968 W/Kg which is ensuring the safety on Human body. Far-fields radiation pattern, total efficiency and total radiation efficiency are calculated to ensure the suitability of antenna implantation. | |